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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,820	10/24/2000	Bassam Tabbara	MSI-548US	1887

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EXAMINER

MANIWANG, JOSEPH R

ART UNIT	PAPER NUMBER
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2144

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/695,820

Applicant(s)

TABBARA ET AL.

Examiner

Joseph R Maniwang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30, 39-41, 47 and 49-52 is/are rejected.
- 7) ☒ Claim(s) 31-38, 42-46, and 48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>see Office Action</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on 5/14/04, 05/19/04, and 07/13/04 were in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements were considered by the Examiner.

Claim Rejections - 35 USC § 103

3. Claims 1-5, 7-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moiin (U.S. Pat. No. 6,108,699), hereinafter referred to as Moiin, and further in view of Coskrey, IV (U.S. Pat. No. 6,336,171), hereinafter referred to as Coskrey.
4. Moiin disclosed a method and system for forming and modifying membership clusters from nodes in a distributed computer system. Clusters were formed as a way to restrict which nodes had access to data and resources (see column 1, lines 44-67). Moiin disclosed a plurality of cluster membership monitors (CMM) for sharing management responsibility of a node, each node being controlled by only one of the plurality of CMMs during the execution of reconfiguration processes while the others provided response messages, thus giving one CMM extended management rights and

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the remaining CMMs more restricted management rights (see column 4, lines 13-21; column 5, lines 18-31; column 5, line 66 through column 6, line 32). CMMs controlled cluster membership, and thus enforced data access restrictions on other nodes as memberships served the purpose of restricting data access (see column 1, lines 44-67). The CMM contained a plurality of fields for identifying the restrictions (see column 5, lines 32-46). The system included network interface adapters for communicating between nodes (see column 5, lines 9-17).

5. Moin described a system for controlling data access between nodes, but did not specifically disclose controlling data forwarding to an intended target, such as a component executing on the node.

6. Coskrey disclosed a resource protection method for use in a cluster environment. Clustered servers provided a way of restricting data access to other systems in the cluster (see column 1, lines 62 through column 2, lines 10), similar to the node cluster of Moin. The system was capable of controlling the forwarding of data to an intended target by checking whether it was permissible to do so or not (see column 2, lines 43-58). Server nodes also included an operating system controlled by commands (see column 5, lines 10-18, 49-56).

7. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Moin and Coskrey to provide a system for managing nodes through a plurality of management devices restricting the access of data between other nodes over a network, and further for controlling the forwarding of data to an intended target associated with the node only if it was permissible to do so.

The combined references offered teachings on the broad concepts claimed, and also motivation for combining the two, as Coskrey disclosed the resource protection method as useful for maintaining data integrity in the case of a system failure within a cluster (see column 1, line 62 through column 2, line 10), a problem similarly recognized by Moiin (see column 1, line 25-43). The combination of teachings would have provided improved system failure handling in a cluster environment.

8. Claims 6, 13, and 15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moiin (U.S. Pat. No. 6,108,699) in view of Coskrey, IV (U.S. Pat. No. 6,336,171) as applied to claims 1 and 8 above, and further in view of Ehlinger et al. (Eur. Pat. App. EP0962861), hereinafter referred to as Ehlinger.

9. The combination of the teachings of Moiin in view of Coskrey suggest a method and system for forming and modifying membership clusters from nodes in a distributed computer system. Clusters were formed as a way to restrict which nodes had access to data and resources (see Moiin column 1, lines 44-67), and were managed by a plurality of cluster membership monitors (CMM) (see Moiin column 4, lines 13-21; column 5, lines 18-31; column 5, line 66 through column 6, line 32). Coskrey disclosed a resource protection method for use in a cluster environment, capable of controlling the forwarding of data to an intended target by checking whether it was permissible to do so or not (see column 2, lines 43-58).

10. The teachings of Moiin in view of Coskrey suggest a system for creating node clusters in a distributed computer system that restricted data access based on

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membership using a CMM, but do not specifically disclose receiving control from a management device remote from the cluster.

11. Ehlinger disclosed a method and system for improved cluster administration. Ehlinger disclosed that a cluster owner determines data access rights to a resource (see column 1, lines 31-39), a device analogous to the CMM of Moin. Ehlinger, however, disclosed such a device as remote from the cluster (see column 2, line 44 through column 3, line 14; column 4, lines 41-50; column 5, lines 17-22).

12. It would have been obvious to combine the teachings of Moin in view of Coskrey and Ehlinger to provide a distributed computer system with a node management device remote from a cluster. One of ordinary skill in the art would have been motivated to consider separating the CMM of Moin from the cluster as taught by Ehlinger since a remote management device improved the administration of computer clusters, removed burden on the cluster, increased reliability, avoided cluster failures, and increased scalability of the system (see column 1, lines 1-6; column 3, lines 30-50; column 4, lines 29-40; column 5, lines 23-32; column 8, lines 17-53).

13. Claims 26-30, 39-41, 47, and 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moin (U.S. Pat. No. 6,108,699), hereinafter referred to as Moin, and further in view of Gong (U.S. Pat. No. 6,125,447), hereinafter referred to as Gong.

14. Moin disclosed a method and system for forming and modifying membership clusters from nodes in a distributed computer system. Clusters were formed as a way to restrict which nodes had access to data and resources (see column 1, lines 44-67).

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Moiin disclosed a plurality of cluster membership monitors (CMM) for sharing management responsibility of a node, each node being controlled by only one of the plurality of CMMs during the execution of reconfiguration processes while the others provided response messages, thus giving one CMM extended management rights and the remaining CMMs more restricted management rights (see column 4, lines 13-21; column 5, lines 18-31; column 5, line 66 through column 6, line 32). CMMs controlled cluster membership, and thus enforced data access restrictions on other nodes as memberships served the purpose of restricting data access (see column 1, lines 44-67). The CMM contained a plurality of fields for identifying the restrictions (see column 5, lines 32-46). The system included network interface adapters for communicating between nodes (see column 5, lines 9-17).

15. Moiin described communication between CMMs, but did not disclose a third party controller for mediating interaction between such management agents by assigning each management agent to a different domain and restricting rights of each domain.

16. Gong disclosed a method and system for maintaining and enforcing data policy through the use of domains. This allowed for determining whether requests for an action should be permitted or not based on the source of the request and the domain associated with the source (see column 3, lines 36-50). Domains were established based on a set of rights (see column 6, lines 32-39; column 8, lines 40-49). Each domain was associated with a domain object that restricted the rights of each domain (see column 9, lines 40-53). Domains could be restricted based on a first set of rights and a second set of rights, one set being more restricted than the other (see column 10,

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line 63 through column 11, line 7). Gong disclosed management agents for managing access to respective resources in each domain, and also an access controller for mediating requests from a source to a resource manager (see column 12, lines 12-23).

17. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Moin and Gong to provide domains in which interactions between management agents associated with each domain were mediated by a controller. The claims generally relate to enforcing domain rights restrictions on different sources. Moin differs from this by not disclosing a controller for mediation action between management agents, but is remedied by the teachings of Gong as Gong discloses a controller for enforcing policies of a management agent. One of ordinary skill in the art would have been motivated to consider the teachings of Gong as they provided a simple way of implementing complex security policies, were easy to adapt to changes in a system, and was a more granular security mechanism (see column 6, lines 40-44; column 8, lines 23-33; column 10, line 63 through column 11, line 7).

Claim Objections/Allowable Subject Matter

Claims 31-38, 42-46, and 48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

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18. Applicant's arguments filed 07/13/04 have been fully considered but they are not persuasive.

19. Regarding claims 1-5, 7-12, and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Moin in view of Coskrey, Applicant generally asserts that the references did not disclose or suggest restricting which other nodes in the co-location facility components executing on the node can receive data from and send data to. Applicant states that Moin disclosed broadcasting a message to all available nodes over all available communications links and receiving confirmation from those nodes, and as such precludes Moin from suggesting restricting which other nodes a node can receive data from and send data to. Applicant, while recognizing its filtering features, further asserts that the invention of Coskrey does not disclose or suggest such a restricting of data. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Examiner further submits that as noted in the above rejection, the combination of the references did suggest the broad concept of restricting the transfer of data between nodes. As acknowledged by Applicant, the invention of Moin was directed to a method and system for modifying cluster membership in a distributed computer system. Moin disclosed forming and modifying such membership clusters from nodes in a distributed computer system as a way to restrict which nodes had access to data and resources (see column 1, lines 44-67). The node clusters

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formed a quorum for maintaining which nodes had “exclusive access to resources which the nodes of the cluster would otherwise share with other nodes of the distributed computer system” (see column 1, lines 62-64). Furthermore, as acknowledged by Applicant, the invention of Coskrey was directed to resource protection in a cluster environment, which provided the capability of controlling the forwarding of data to an intended target by checking whether it was permissible to do so or not (see column 2, lines 43-58). Both references in combination thus read upon the broad concept of restricting which other nodes components executing on one node can receive data from (i.e., had access to shared resources) and send data to (i.e., had permission to forward data to a target) as claimed.

20. Applicant further asserts that the references did not suggest or teach a plurality of management devices that share management responsibility for a node, and wherein execution of components on the node are restricted to only one of the devices at a time. Applicant acknowledges that the cluster membership monitor (CMM) or a node both broadcasts and receives a response from other nodes in a reconfiguration process, and concludes that CMMs do not share management responsibility for other nodes in the cluster. However, Examiner submits that as CMMs managed cluster memberships and not only broadcast but also received responses, CMMs did in fact share management responsibilities for the nodes in a cluster. While Applicant recognizes that a CMM sends a message in attempt to join a cluster, it is further noted that the other nodes responded by similarly broadcasting a message (see column 6, lines 3-7). In this way, the CMMs, which were present in each node (see Fig. 2) worked together to manage

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each node. Additionally, Moin reads upon the broad concept of restricting the management of a node to one management device at a time as each node was controlled by a respective CMM stored in its memory (see column 5, lines 47-65; Fig. 4). As such, Moin taught the broad concept where CMMs controlled their own respective nodes, yet depended on the shared responsibility of managing all nodes as described above.

21. Regarding claims 6, 13, and 15-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Moin in view of Coskrey and further in view of Ehlinger, Applicant asserts there is no motivation to combine the references. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, as recognized by Applicant, the teachings of Ehlinger improved cluster management by shifting the burden of arbitration on the remote arbiter. This would have motivated one of ordinary skill in the art to consider separating the CMM of Moin from the cluster as taught by Ehlinger to improve the administration of computer clusters, remove burden on the cluster, increase reliability, avoid cluster failures, and increase scalability of the system (see column 1, lines 1-6;

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column 3, lines 30-50; column 4, lines 29-40; column 5, lines 23-32; column 8, lines 17-53). Applicant further asserts that the references do not teach an operations console remote from the co-location facility. Examiner submits that Ehlinger undoubtedly teaches this broad concept in disclosing that the cluster arbiter was outside the cluster (see column 5, lines 23-26), as acknowledged by Applicant.

22. Applicant further asserts that the references do not teach two sets of rights granted to two control consoles, one set more restricted than the other. Examiner submits that Ehlinger taught the use of multiple arbiters, with the ability to assign different sets of rights a claimed (see column 9, lines 11-55).

23. Applicant further asserts that the references do not teach or suggest a filter for restricting access to another node. Examiner submits that the broad concept of access-restricting filters was taught by Coskrey as described in the above rejection.

24. Regarding claims 28-52 rejected under 35 U.S.C. 103(a) as being unpatentable over Moiin in view of Gong, Applicant asserts that there would have been no suggestion or motivation to combine the teachings. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed.

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Cir. 1992). In this case, the references generally relate to a similar problem of enforcing data restrictions on different sources. Moiin related to forming and modifying membership clusters from nodes in a distributed computer system as a way to restrict which nodes had access to data and resources (see column 1, lines 44-67). Similarly, the invention of Gong related to enforcing security in a computer system of one or more principals through granting permissions to access a computer resource, such as writing data to a file system (see column 8, lines 40-49). Both teachings generally related to controlling access rights in a computer system, and as noted above, one of ordinary skill in the art would have been motivated to combine the teachings to further gain the benefits of Gong, which included a more complex permission policy (see column 8, lines 23-33).

25. Applicant further asserts that the references do not teach a controller for executing a software engine in response to a request from a management device. Examiner submits that this broad concept was disclosed by Gong (see column 11, line 34 through column 12, line 39; Fig. 5).

26. Regarding claims 31-38, 42-46, and 48, Applicant's arguments have been considered and are persuasive. The rejection of these claims has been withdrawn.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph R Maniwang whose telephone number is (703) 305-3179 [Crystal City], (571) 272-3928 [Alexandria]. The examiner can normally be reached on Mon-Fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William A Cuchlinski can be reached on (703)308-3873 [Crystal City], (571) 272-3925 [Alexandria]. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JM



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